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## Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files

DATE: 1 June 1954

FROM :

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SUBJECT: Trip Report - Contract PSC-148-UNV

1. A visit was made to the facilities of [redacted], Chicago, Illinois, during the period 24-27 May 1954 to discuss matters pertaining to the subject contract.

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2. Although the original intention of the visit was to discuss Technical Action Requests 26, 27, and 28 which had been originated by the Contractor, upon arrival at the plant we were informed that a pilot run of 25 RS-6A equipments had been made and the test results were available. The company expressed the wish that we would discuss the pilot run test results at length with the view that they might gain authorization for full production.

3. Those present for the initial discussion of the equipment were:



Plant Engineering  
Project Engineer  
Asst. Project Engr.  
Engineering Production  
Engineering Production  
R&D/Lab  
R&D/EP

[redacted]  
"  
"  
"  
"  
CIA  
CIA

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4. [redacted] presented mechanical and electrical defects as noted by [redacted] at the [redacted]. Notes were taken by the production representatives and assurances were given that these matters would be investigated. A matter not resolved at the meeting concerned the calibration accuracy of the RR-6 and RR-6A and the subject of TAR 26 and 27 respectively. [redacted] said that the Radio Condenser Corporation was not able to supply the condenser with the required tolerances and that it was either take what was available or cease production. That this is true does not appear evident from the following:

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a. Correspondence in the hands of [redacted] from the Radio Condenser Corporation, the supplier, claims that the condensers meet specifications and are passed by Navy Inspectors at their plant.

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Trip Report - Contract PSC-148-UNV

1 June 1954

b. Quality control of [ ] stated that almost a 100% inspection of the condensers are made and that tolerances are generally within .2 mmf per 10 degree rotation. (Better than specifications).

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c. [ ] pointed out to [ ] and me prior to the Chicago visit that [ ] may be aligning the RR-6 receivers with the incorrect capacitor minimum. The correct minimum lies 180 degrees from fully closed. A second and incorrect capacitor minimum exists with an approximate 190 degrees of rotation from fully closed, and that a quick check on correct minimum is to tune the receiver beyond the 15 megacycle point where a 15 megacycle signal should again be observed. If this cannot be accomplished the wrong minimum has been used with resultant calibration inaccuracies.

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d. Production Engineering indicated the possibility of condenser characteristics being changed due to the strain exerted on the component when screwed to the receiver housing.

5. [ ] agreed that it was hardly [ ] position that they should produce equipment that neither met the equipment specifications nor equaled the delivered prototypes. It was agreed that the following day would be devoted to discussing the pilot run of the RS-6A equipment, and that the production people would be excluded from such talks in order to minimize irrelevancy.

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6. Tuesday morning, due to the non-availability of [ ] was spent with Mr. Christopher Maren, the Navy Inspector. Mr. Maren was unaware of equipment defects noted by [ ]. Among these was the anti-backlash spring on the condenser gearing. Previously this spring had been held taut by an extended length of the shaft set screw. Components on the assembly line presently do not have this screw with the extended length and spring tautness cannot be accomplished in the earlier manner. This matter had been previously brought to the attention of the production personnel. A visit was made to [ ] quality control with the results noted in paragraph 4b. A visit was made to production engineering's screen room and [ ] supervised the phasing operation as conducted by [ ] could not bring the unit within any degree of calibration accuracy required by the specification. It seemed apparent that once a condenser is knifed it cannot be restored to nominal tolerances.

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7. The afternoon was devoted to a study of the RS-6A pilot run test data. The data available indicated that the equipment specifications had not been met on several instances and further that realistic characteristics

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Trip Report - Contract PSC-148-UNV

1 June 1954

to be derived as a result of the pilot run are lower than might be anticipated. The principal defects are poor calibration accuracy of the receiver and reduced power output of the transmitter. Although the image rejection of the accepted prototypes is 33.6 decibels at 22 megacycles, the test results of the 25 pilot run receivers range from 26 to 18.2 decibels at 22 megacycles, the nominal image rejection being 22 decibels. The undersigned expressed the view that further relaxation of the equipment specifications would not be favorably received by the Agency and suggested that an engineering investigation be undertaken by [ ] to determine the causes for down-graded characteristics. [ ] took this as meaning that they would run tests on new equipment and submit such data to the Agency. It was pointed out that what was wanted was an engineering investigation directed towards improving the equipments characteristics on the production line. It was agreed that [ ] would make such an investigation and that such an investigation would take approximately two weeks and that improved quality control of the production line would be inserted on a running basis. [ ] indicated that initial production would be at a rate of approximately 12 sets per day (50% of normal) and that the initial 50 sets produced would be the subject of an engineering investigation. The undersigned agreed to accept a temporary TAR providing the engineering investigation was written into it and that it would be subject to approval by the Washington, D. C. Office. [ ] had to leave for New York because of a death in the family and was not present at [ ] hereafter.

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8. The following day was spent in gathering test data and assisting in the preparation of the TAR. It might be pointed out that all test data on the transmitter was not available since the initial data presented was found to be in error. Consequently, new and only spot check data was gathered on the pilot run transmitters for minimum power output and these data were incorporated into the TAR by [ ]. Further reluctance at acceptance of the TAR Thursday Noon, at which time it was completed, came with indications that the transmitter's harmonic radiation exceeded specifications and that further relaxation would be sought by the Contractor.

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9. It would be desirable if our calibration accuracy requirements were supported by a curve. The specifications stipulate a maximum calibration error that may exist over a portion of the frequency coverage. [ ] interprets this as allowing the full maximum over such a range. The theoretical design consideration upon which the condenser is based would permit this maximum to exist at a single point and thereafter the calibration error would decrease with frequency. [ ] phasing of the units does not reflect such design and consequently with the maximum or near maximum error existing at the low frequency the fiduciary does not correct the error.

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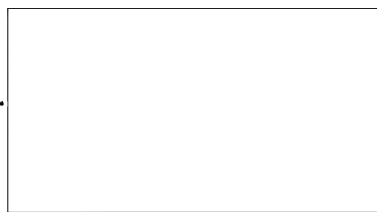
1 June 1954

10. While at [ ] an introduction was made to a [ ],  
a civilian representative from the Rome Air Development Center, Rome,  
New York. [ ] said their laboratory had conducted extensive tests  
on Yardney Silvercells and that they had experienced excellent reliability.  
They had, however, experienced the blowing up of mercury cells until the  
pressure vent was relocated. [ ] said that data on their battery  
evaluation was available and could be procured through Air Force liaison.  
This shall be done.

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